```cpp
//[訊息解碼/Message Decoding]
#define IN "P0406IN.txt"
#define OUT "P0406OUT.txt"
//**************************************
#include <iostream>
#include <time.h>
using namespace std;
void redir(void);
//**************************************
/* Work Space*/
int readcodes(void); //建立編碼表
int readint(int c); //讀取長度為c的01字串，並將其轉換為整數

int code[8][128];
//**************************************
int main(void)
{
    redir(); //redirection
//**************************************
/* Work Space*/
    int len;
    int v;
    char ch;

    while(readcodes()){
        for(;;){
            len = readint(3);
            if(len == 0)break;
            for(;;){
                v = readint(len);
                if(v == (1<<len)-1) break;
                putchar(code[len][v]);
            }
        }
        putchar('\n');
    }
//**************************************
    freopen("CON", "r", stdin); //取消重新導向
    freopen("CON", "w", stdout);

    printf("Time used = %.2f\n", (double)clock()/CLK_TCK); //傳回程式目前為止執行的時間

    system("pause");
    return 0; //the end...
}

void redir(void)
{
    freopen(IN, "r", stdin);
    freopen(OUT, "w", stdout);
}
//**************************************
/* Work Space*/
//建立編碼表
int readcodes(void)
{
    int len, i;
    char ch;

    memset(code, 0, sizeof(code)); //清空陣列
    while((ch = getchar()) == '\n'); //跳過分行符號
    code[1][0] = ch;
    for(len = 2; len <=7; len++){
```

```c
        for(i=0; i< (1<<len)-1; i++){
            ch = getchar();
            if(ch == EOF) return 0;
            if(ch == '\n') return 1;
            code[len][i] = ch;
        }
    }
    return 1;
}

//讀取長度為c的01字串，並將其轉換為整數
int readint(int c)
{
    int v = 0;
    int ch;

    while(c--){
        while((ch = getchar()) == '\n');//跳過分行符號
        v = v*2 + ch-'0';
    }
    return v;
}

//Input(IN) Sample
/*
TNM AEIOU
0010101100011
10100010011110110011
11000
$#**\
01000001011011000111100101000
*/
```